STATE OF FLORIDA

FY2022 SECTION 319(h) GRANT WORK PLAN

Submitted September 2021

Florida Department of Environmental Protection (Department)
Division of Water Restoration Assistance (DWRA)
Nonpoint Source Management Program (NPS)
Amanda Peck
Emily Forinash

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INTRODUCTION TO FLORIDA'S FY2022 SECTION 319(h) WORKPLAN

This FY2022 Section 319(h) Draft Work Plan consists of 13 projects that were selected for Section 319 grant funding. In the fall of 2020 and spring of 2021, grant solicitation packages were sent out statewide and placed upon the Department's website. Department staff reviewed and evaluated the 35 proposals submitted. Projects were prioritized for grant funding using the Project Evaluation Criteria included in the grant solicitation package. The selected projects were then presented to the DWRA's senior managers for final funding approval.

The selected projects contribute to the implementation of the Department's NPS Management Plan. There are two Department program projects and one project with local government entities under the Program Funding category.

- The two Department program projects are the NPS, Total Maximum Daily Load (TMDL) and Basin Management Action Plan (BMAP) Administration activities and the Bioassessment program. Section 1 of the NPS Management Plan describes the TMDL and BMAP watershed assessment and restoration processes, Section 2 of the NPS Management Plan describes the NPS Grant and Funding Administrative activities and Section 10 of the Plan describes the bioassessment program activities.
- Program Funding will be assigned to one stormwater/low impact development project.

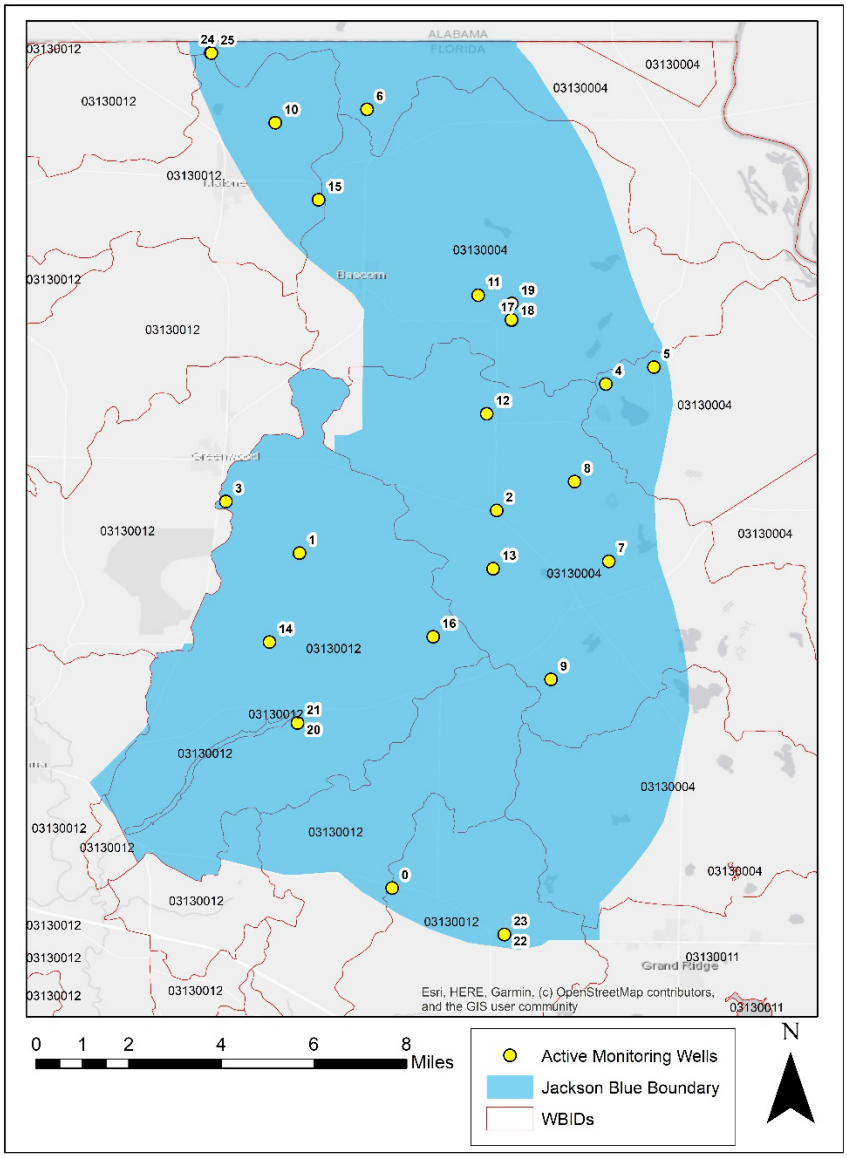
There are 10 projects with other government entities, local and state level, under the Watershed funding category. All of the watershed projects address nonpoint source pollution in priority BMAP areas identified in the NPS Management Plan.

- Four of the workplan projects are targeted at reducing nutrients from urban stormwater which is identified in the Plan as a high priority for the Department.
- Two of the projects are focused on nonpoint education, one with Florida-Friendly Landscaping and the other is focued on reclaimed irrigation water.
- There are three septic to sewer projects abandoning septic tanks in their respective areas.
- There is one placeholder Watershed funding project that will be allocated towards a local government implementing an eligible project at a later date.

The specific references on how the projects are linked to the NPS Management Plan are provided in Table 1.

NATIONAL WATER QUALITY INITATIVE

The Department continues to work with the National Resource Conservation Service (NRCS) on the National Water Quality Initiative (NWQI). The decision was made to not pursue additional watersheds for the 2021 NWQI submission. For the July 2020 NWQI submissions, the decision was finalized to move forward with the Jackson Blue Spring watershed and coordination meetings between all stakeholders are occurring for implementation. The Department is not requesting funding at this time for the NWQI but DEP staff coordinates with NRCS on the NWQI watershed selection and monitoring activities.



Jackson Blue Watershed

PROGRAM PROJECTS

Over the past 25+ years, the state has implemented a wide variety of nonpoint source management programs involving numerous state agencies, the water management districts, and local governments. These programs include non-regulatory and regulatory components, technical assistance, education, technology transfer, extensive interagency coordination and monitoring. The programs include both surface water and groundwater elements.

The Department's FY2022 program undertakes projects that will increase the environmental effectiveness of our NPS programs, expand our knowledge about the potential effects of various nonpoint sources on ground and surface waters, and expand our knowledge about the effectiveness of Best Management Practices (BMPs) in protecting ground and surface waters.

The projects described in this section of the Work Plan for program funding provide for:

- Administration of the program and management of selected sub-grantee projects;
- Development and Implementation of TMDLs and BMAPs;
- Improvement to the state's surface water NPS bioassessment program.

Project 1, NPS/Watershed Program Administration. Support of the Nonpoint Source Management Section includes managing the restoration contracts associated with the program and watershed funding, overseeing the NWQI program, and additional tasks such as updating the EPA Grants Reporting Tracking System. This funding provides support for staff, travel, and other expenses that are otherwise unavailable. In addition, the Division of Environmental Assistance and Restoration (DEAR) staff coordinates with state, regional, and local governmental agencies, local watershed groups, and nongovernmental organizations and other interested stakeholders to develop and implement Total Maximum Daily Loads, Basin Management Action Plans, and Reasonable Assurance Plans (9-Element Watershed Plans). This project addresses activities identified in Section 1 and 2 of the NPS Management Plan and implements milestones set forth in Appendix 1 of the Plan.

Project 2, Bioassessment Program. The responsibility for monitoring the condition of Florida's surface and ground water resources lies with the Department and its restoration partners, including the Water Management Districts (WMDs) and local governments. The Department has developed biological monitoring tools and associated quality assurance (QA) for more than 25 years. The Department currently uses the Stream Condition Index (SCI), Habitat Assessment (HA), Lake Vegetation Index (LVI), Rapid Periphyton Survey (RPS), and Linear Vegetation Survey (LVS) to determine biological impairment due to nonpoint source pollution of nutrients, sediment, metals, and other pollutants. These biological assessment methods are included in Florida's Water Quality Standards and Impaired Waters Rules (62-302 and 62-303, Florida Administrative Code). This project is designed to increase our ability to monitor and assess the effects of NPS pollutants, the effectiveness of BMPs, and the effectiveness of the NPS management program. This project addresses activities identified in Section 9 of the NPS Management Plan and implements milestones set forth in Appendix 1 of the Plan.

Project 3, Santa Rosa County LID Demonstration Sites Project. This project includes installation of six trees in two retention ponds, bioswales and permeable pavement, and rain

gardens as demonstration of BMPs for nutrient load reduction in stormwater. A County LID Manual will be developed with match funds. Simplified examples such as these will illustrate how the manual can be used individually and as a part of larger projects. Public outreach will be conducted to gauge manual effectiveness. This data will benefit future land use planning to determine what stakeholders would be interested in seeing implemented. This project addresses activities identified in Section 3 of the NPS Management Plan and implements milestones set forth in Appendix 1 of the Plan.

Outcomes for DEP Administrative Projects (Projects 1 & 2)

The Nonpoint Source Management Program staff are charged with managing the projects that are funded through the 319(h) grant program and those that are funded through the State Water-quality Assistance Grant program. The projects implemented in these programs improve water quality benefits, and the project managers ensure the projects are kept on time and on budget. The program staff also work with stakeholders to implement nonpoint source education throughout the state.

The individuals funded by this grant are tasked with the overall coordination of TMDL implementation activities throughout the state of Florida. This coordination includes the development of TMDL implementation plans (through the state Basin Management Action Plan [BMAP] Program), working with stakeholders to develop and implement the plans, developing and assessing both structural and non-structural projects that target pollutant reductions required by the TMDLs, and overall assessing and reporting on progress.

The Department's Bioassessment Training is an essential element of the bioassessment program, including field sampling method training for new employees and training for all staff on new tools and approaches to be used in conjunction with bioassessment methods.

Project evaluation elements include number of staff within and outside of the Department who are trained annually on Bioassessment sampling methods, number of participants in Biocriteria meetings, and assessment decisions made with the support of bioassessment data.

WATERSHED PROJECTS

The remaining ten projects selected for funding will meet a variety of urban, education and agricultural related stormwater needs. All these selected projects implement Best Management Practices (BMP) in Basin Management Action Plans (BMAPs) or Reasonable Assurance Plans (RAPs) and are identified as Watershed projects. Additionally, these projects all meet the goals set out in the NPS Management Plan. More detailed scopes for the selected projects are included later in this document.

Outputs for all Local Grantee Recipients (Project #s: 3-13)

Output: Final Report
Final Reports include the following information:

- Project location and background, project description and timeline, grant award amount and anticipated benefits.
- Financial summary of actual costs versus the budget, along with any changes required to the budget. Include any match provided, along with other related project work performed outside of this Agreement to identify the overall project cost.
- Discussion of project schedule versus actual completion, including changes required to the schedule, unexpected site conditions and adjustments, significant unexpected delays and corrections, and/or other significant deviations from the original project plan.
- Summary of activities completed as well as those not completed and why, as well as a brief summary of any additional phases yet to be completed.
- Dated color photo documentation of work performed (representative of the entire project), appropriate figures (site location, site plan(s), etc.), appropriate tables summarizing data/information relevant to Grant Work Plan tasks, and appropriate attachments relevant to the project.
- Discussion of whether the anticipated benefits have been/will be realized (e.g., why a BMP did or did not exceed the expected removal efficiency)
- Summary of monitoring activities completed and any not completed and why, monitoring results, and an interpretation of data based on planned versus realized results
- Documented environmental results
- Description of any partnerships related to the project

Outcomes for all Local Grantee Recipients (Project #s: 3-13)

Outcomes include expected environmental results (load reductions and other water quality improvement information), partnerships, and any general BMAP and/or RAP information. Details on outcomes are included in the project information.

TABLE 1. FY22 Grant Funding Request, Project Selection- Program Projects

Project	Type/Mgmt Plan location	Title	Lead Agency	Watershed Plan	FY22 319 Funding	FY22 319 Match Funds
1	Watershed Admin, Mgmt Plan pg. 17/Appendix 1.0; NPS Admin, Mgmt Plan pg. 31/ Appendix 2.0	NPS/Watershed Program Administration	FL DEP	Statewide	$2,311,670	$1,303,553
2	Bioassessment pg 100/ Appendix 9.0	Bioassessment	FL DEP	Statewide	$200,555	$127,942
3	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	Santa Rosa County LID Demonstration Sites Project	Santa Rosa County	No	$79,620	$36,687
TOTAL PROGRAM					**$2,591,845**	**$1,468,182**

TABLE 2. FY22 Grant Funding Request, Project Selection -Watershed

Project	Type/Mgmt Plan location	Title	Lead Agency	Watershed Plan	FY22 319 Funding	FY22 319 Match Funds
4	Education/ Mgmt Plan Pgs. 40, Appendix I, 3.1	FL Friendly Yards and Landscaping	University of Florida	Statewide BMAPs	$279,463	$1,179,954
5	Education/ Mgmt Plan Pgs. 40, Appendix I, 3.1	Public Education Program on Reclaimed Water and Nonpoint Source Management	Seminole County	Wekiva, Lake Jesup, St. Johns	$100,000	$40,000
6	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	Seminole Street Alley Way Improvements	City of Stuart	IRL, Banana River Lagoon	$274,007	$952,914
7	OSTDS/Mgmt Plan Pg 25; #8 OSTDS Program, Pg. 93/ Appendix 1 – 8.1(a)	Martin County Connect to Protect Septic to Sewer Conversion Nutrient Removal Program	Martin County	St. Lucie River and Estuary	$850,000	$1,755,000
8	OSTDS/Mgmt Plan Pg 25; #8 OSTDS Program, Pg. 93/ Appendix 1 – 8.1(a)	Rosemont Septic to Sewer Conversion Project	City of Orlando	Wekiva River, Rock Springs Run, and Little Wekiva Canal	$471,000	$314,000
9	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	Midtown Redevelopment Water Quality - Phase 1	City of Fort Myers	Caloosahatchee River and Estuary	$800,000	$1,800,000
10	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	Walnut Street Resurfacing and Parking	City of Green Cove Springs	Lower St. Johns River	$400,000	$50,000
11	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	N. Broadway Median Bioswale	City of Fellsmere	Central IRL	$79,985	$100,000
12	OSTDS/Mgmt Plan Pg 25; #8 OSTDS Program, Pg. 93/	Indian Watersh Phase I- Septic to Sewer	City of Crystal River	Crystal River/Kings Bay	$774,000	$172,000

	Appendix 1 – 8.1(a)					
13	Urban, Mgmt Plan Pg. 43/ Appendix I, 3.0	Florida Stakeholder Watershed BMAP Implementation Placeholder Project			Removed from workplan	$0
Watershed Total					**$4,028,455**	**$6,400,555**
FY 22 Total Grant Request					**$6,620,300**	**$7,832,050**

Summary		
	Grant	**Match**
Total Salary/Personnel	$1,024,228	$606,046
Total Fringe	$755,675	$447,141
Total Travel	$20,000	$0
Total Indirect	$712,322	$378,307
Total Other	$4,108,075	$6,400,555
Total Grant Request	**$6,620,300**	**$7,832,050**
Total Match Required (40%)		$4,855,547
Total Match from State/Projects		$7,832,050
Match Percentage		**54%**
Program Total	$2,591,845	
Watershed Total	$4,028,455	
Program Percentage	**39%**	
Watershed Percentage	**61%**	

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FLORIDA'S FY2022 SECTION 319(h) Workplan

PROJECT 1: NPS/Watershed Program Administration

PROJECT FUNDING: $2,311,670 **MATCH:** $1,303,553

LEAD ORGANIZATION: Florida Department of Environmental Protection

PROJECT ABSTRACT: Florida's NPS Management Program identifies the natural resource management programs, strategies, and resources that currently are in place or that are needed to minimize or prevent nonpoint source pollution effects. The NPS Management Program identifies BMPs to control pollution from specific sources of nonpoint source pollution (e.g., agriculture, forestry, OSTDS, urban); identifies programs to assure implementation of programs, activities, and structural and nonstructural BMPs that will minimize or reduce NPS pollution; and coordinates restoration activities with other state and local entities, especially those leading to restoration of impaired waters. Section 319 grant financial support allows the NPS Management Program staff to properly administer the grant, to assure that all projects are properly completed, and to enhance the effectiveness of the state NPS/watershed management program.

In addition, the Division of Environmental Assistance and Restoration (DEAR) staff coordinates with state, regional, and local governmental agencies, local watershed groups, and nongovernmental organizations, and other interested stakeholders to develop and implement TMDLs and assists with development of the state's Best Management Practice manuals. BMAPs are developed collaboratively with local stakeholders and are designed to identify management actions and schedules to meet the pollutant load reductions required by adopted TMDLs. Section 319 grant financial support allows the DEAR staff to develop and implement TMDLs and BMAPs.

PROJECT DESCRIPTION: The funds will pay the salaries of 1) a Program Administrator to oversee management of the NPS program; 2) eight full-time NPS Environmental Specialists to manage selected projects; 3) one Deputy Director of DEAR to oversee management of the assessment, TMDL, and BMAP programs; 4) one Program Administrator to oversee management of the water quality restoration program (including BMAP development); 5) three Environmental Consultants to develop and implement BMAPs; and 6) one Program Administrator and one Environmental Consultant to develop and implement TMDLs. Requested funding also covers travel expenses of Department NPS staff to meet with project sub-grantees on-site to ensure accountability of project funding, and provide site-specific nonpoint source expertise, to travel to EPA Nonpoint Source Workshops, and to provide for travel needed in order to assist in the development and implementation of TMDLs.

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GOALS:

Goal: Successfully manage the 319 grant program.
(a**) Action:** Reduce the unliquidated obligations (ULOs) by utilizing leftover funds, emphasizing the five-year time frame in the proposal and selection process and evaluating the project contracting process.
(b) Action: Evaluate and update the NPS Management Plan on an ongoing basis and at least every five years.
(c) Action: Maintain 319 project data in the GRTS system.
Goal: Develop a centralized system to track all NPS restoration projects managed by the NPS Program or geared toward BMAP implementation.
(a**) Action:** Evaluate systems for suitability
Goal: Administer an effective NPS management program.
(a**) Action:** Provide technical expertise on issues relating to NPS management through meetings and inter- and intra-agency cooperation.
(b) Action: Provide educational materials and training on NPS management.
Goal: Develop TMDLs for verified impaired waterbodies.
(a**) Action:** Prioritize the waterbodies for TMDL development utilizing appropriate tools such as the EPA Recovery Potential Screening tool.
(b**) Action:** Develop TMDLs for waterbodies based on priority listing
Goal: Develop and implement BMAPs to implement TMDLs and restore water quality.
(a**) Action:** Prioritize watersheds for BMAP development utilizing the EPA Recovery Potential Screening tool.
(b**) Action:** Work with local and regional stakeholders to develop BMAPs for adoption**.**
(c**) Action:** Support projects that are targeted at implementation of BMAPs**.**
Goal: Restore impaired waters that are not part of a BMAP.
(a**) Action:** Support local entities in the development of RA plans, Nutrient Management Plans, or other water quality restoration plans for waterbodies that are impaired but are not slated for BMAP development.
(b**) Action:** Support projects geared toward the restoration of impaired waters that are not part of a BMAP.

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PROJECT BUDGET – GRANT FUNDING

Admin Project Funding Activity	319 (h) Salary	Fringe (73.78%)	Indirect (49.30% and 33.86%)
1 Program Administrator NPS	$67,337	$49,681	$57,690
7 Environmental Specialist NPS	$341,309	$251,818	$292,412
1 Deputy Director DEAR (TMDL & BMAP)	$108,150	$79,793	$63,638
1 Program Administrator BMAP	$78,507	$57,922	$46,195
3 Environmental Consultant BMAP/TMDL	$146,866	$108,358	$86,419
1 Environmental Administrator BMAP	$57,000	$42,055	$33,540
1 Program Administrator TMDL	$78,280	$57,755	$46,061
1 Environmental Administrator TMDL	$60,564	$44,684	$35,637
Totals:	**$938,013**	**$692,066**	**$661,591**
Travel (NPS)	**$20,000**		
GRAND TOTAL:	**$2,311,670**		

*NPS Indirect rate is 49.30% and TMDL & BMAP Indirect rate is 33.86%.

MATCH FUNDED POSITIONS:

Program Match Positions	Match Salary	Fringe (73.78%)	Indirect (49.30% and 33.86%)
1/4 Director DEAR	$29,612	$21,848	$17,425
1/4 Budget Director DEAR	$14,853	$10,958	$8,740
3 Environmental Consultant BMAP	$148,713	$109,720	$87,506
1/4 Director DWRA	$31,093	$22,941	$26,639
1/4 Staff Director DWRA	$23,252	$17,156	$19,921
1/4 Budget Director DWRA	$17,510	$12,919	$15,001
1/4 Admin. Assistant DWRA	$9,012	$6,649	$7,721
3 Environmental Consultant TMDL	$149,440	$110,257	$87,933
3 Environmental Specialist III TMDL	$127,560	$94,114	$75,059
Total:	**$551,046**	**$406,562**	**$345,944**
GRAND TOTAL:	**$1,303,553**		

*NPS Indirect rate is 49.30% and TMDL & BMAP Indirect rate is 33.86%.

a. Estimated Project Start Date: July 1, 2022
b. Estimated Project End Date: June 30, 2027

PROJECT 2: Bioassessment Development and Quality Assurance

PROJECT FUNDING REQUEST: $200,555
MATCH COMMITMENT: $127,942

LEAD ORGANIZATION: Florida Department of Environmental Protection, Aquatic Ecology QA Section

CONTACT INFORMATION:

Name: Sarah Noble
Street Address: 2600 Blair Stone Rd., MS 6511
City, State, Zip: Tallahassee, FL 32399
Tel: 850-245-8533
Email: sarah.noble@floridadep.gov

Geographic Location (city and county): Statewide

PROJECT OVERVIEW:

The Florida Department of Environmental Protection (department) has a mature bioassessment program that has developed biological monitoring tools and associated quality assurance (QA) for more than 25 years. The department currently uses the Stream Condition Index (SCI), Habitat Assessment (HA), Lake Vegetation Index (LVI), Rapid Periphyton Survey (RPS), and Linear Vegetation Survey (LVS) to determine biological impairment due to nonpoint source pollution of nutrients, sediment, metals, and other pollutants. These biological assessment methods are included in Florida's Water Quality Standards and Impaired Waters Rules (62-302 and 62-303, Florida Administrative Code), and therefore numerous entities outside of the department are using these methods as well. A rigorous quality assurance component to this program is essential for accurate and scientifically defensible decision-making with bioassessment data. The requested funding would support quality assurance activities, including accurate metric calculations for external parties, and further tool development for the department's bioassessment activities.

Training is an essential element of the bioassessment program, including field sampling method training for new employees and training for all staff on new tools and approaches to be used in conjunction with bioassessment methods. Some of the requested funds would be used to cover travel costs associated with staff attendance at bioassessment sampling training (as trainers and trainees) and the annual Biocriteria meeting. The Biocriteria meeting also serves as a means of educating other private and public entities throughout the state on use of the department's biological assessment methods.

One of the QA components for the department's SCI, LVI, and LVS assessments is taxonomic verification by subject matter experts outside the department for specimens with unknown identification or those specimens to be included in reference collections.

Project evaluation elements include number of staff within and outside of the Department who are trained annually on Bioassessment sampling methods, number of participants in Biocriteria meetings, and assessment decisions made with the support of bioassessment data.

PROJECT GOALS:

Goal: Evaluate waterbodies for NPS pollution through a bioassessment program.
(a) Action: Improve integration of existing bioassessment tools into statewide monitoring and assessment programs as well as water resource programs.
(b) Action: Continue to provide technical support staff to the statewide bioassessment program to both implement and expand sampling programs and manage the flow of statewide data collection, analysis, and reporting to program managers and the public.

PROJECT FUNDING and TIMELINE:

Admin Project Funding Activity	319(h) Salary	Fringe (74.81%)	Indirect (22.62%)
2 Environmental Specialist II	$86,215	$63,609	$50,731
Total:	**$86,215**	**$63,609**	**$50,731**
GRAND TOTAL:	**$200,555**		

Program Match Positions	Match Salary	Fringe (74.81%)	Indirect (22.62%)
1 Environmental Administrator	$55,000	$40,579	$32,363
Total:	**$55,000**	**$40,579**	**$32,363**
GRAND TOTAL:	**$127,942**		

c. Estimated Project Start Date: July 1, 2022
d. Estimated Project End Date: June 30, 2027

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PROJECT 3: Santa Rosa County LID Demonstration Sites Project

PROJECT TYPE: Stormwater

PROJECT FUNDING REQUEST: $79,620
MATCH COMMITMENT: $36,687

ENTITY/SPONSOR NAME: Santa Rosa County

CONTACT INFORMATION:
Name: Tanya Linzy
Street Address: 6051 Old Bagdad Highway, Suite 301
City, State, Zip: Milton, FL 32583
Telephone: (850) 981-7133
Email: tanyal@santarosa.fl.gov

SHORT PROJECT DESCRIPTION:
The project includes installation of six trees in two retention ponds, bioswales and permeable pavement, and rain gardens as demonstration of BMPs for nutrient load reduction in stormwater. A County LID Manual will be developed with match funds. Simplified examples such as these will illustrate how the manual can be used individually and as a part of larger projects. Public outreach will be conducted to gauge manual effectiveness. This data will benefit future land use planning to determine what stakeholders would be interested in seeing implemented.

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address):
Primary location includes two (2) sites in Milton, FL. Additional locations to be determined based on citizen participation in incentive program.

Size of Project Impact (area needed to build project): approximately 4.5 acres

Santa Rosa County Board of County Commissioner's Office:
Latitude (decimal degrees): 30.6158306
Longitude (decimal degrees): -87.0508638

Santa Rosa County Extension Office:
Latitude (decimal degrees): 30.6627361
Longitude (decimal degrees): -87.05543

Provide the name of the waterbody(s) that this project addresses:
Pensacola Bay Watershed

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.

LID technologies which are appropriately designed and maintained have been shown to drastically improve water quality in the downstream surface waters from development areas in which they are deployed. This reduction of pollutants is the key goal of the watershed basin wide strategy of meeting the TMDL requirements set forth by rule 62-302 F.A.C. County waterbodies are currently exceeding maximum thresholds for nitrogen, phosphorus, and fecal coliform. Twenty-six (26) impaired waterbodies have been identified within the county, with six (6) previously adopted TMDLs for Blackwater River-marine (WBID 24AB), East Bay Rivermarine (WBID 701A), Judge Bayou-freshwater (WBID 493A) Judges Bayou-tidal (WBID 493B), Escambia Bay-North (WBID 548AA), and Escambia River (WBID) 10F). Additionally, several others are being evaluated for TMDL adoption. This project would aid in County-wide improvement of those impaired bodies and community feedback on specific strategies they would be willing to use.

List the parameter(s) the waterbody is impaired for that this project addresses.

Nutrients that will be monitored at tree demonstration site: Ammonia as N, Orthophosphate as P, Total Nitrate- Nitrite, Total Phosphorous, Total Kjeldal Nitrogen.

DETAILED PROJECT DESCRIPTION:

This project includes the installation and monitoring of three (3) different tree species at two (2) stormwater ponds for volume and nutrient reduction, the design and construction of a large-scale demonstration project (approximately 65,000 ft²) showcasing multiple GI technologies to include bioretention areas in line with permeable pavement, a citizen rain garden incentive program with education element, and lastly seeks to incorporate the findings of the above projects into a County LID Manual. This project engages the community through incentives and education by means of visual example and an accompanying virtual meeting.

By installing these projects at County owned properties with lots of visitors and in the yards of our citizens we are not only in real time treating nonpoint source pollution onsite, but we are laying down the foundation of understanding our County needs to reduce impact going forward. The creation of the LID Manual with tangible examples seeks to further solidify the success of future implementation and policy making supporting green infrastructure.

Educating the developers, local planners, and the local community on LID technologies and providing strategies to remove the mystique of implementation will encourage understanding of the stormwater contributions to decreases in water quality and will create a commitment to on-site treatment. The environmental and socio-economic benefits of community embracement of LID methods include improved water quality, flood damage resiliency, aquatic habitat restoration, improved aquifer recharge, green industry job creation, improved public health, enhanced community recreational activities, and beautification of local common areas. Implementation at individual site locations is effective for localized reduction in nutrients; however, broad and basin wide efforts in environmentally sensitive areas will have the most positive impacts within the Pensacola Bay system.

Santa Rosa County represents 43% of the Pensacola Watershed at just over 650,240 acres and currently has the highest rate of development. County-wide participation in LID strategies at strategically selected sites will be most effective in responding to impaired waters and overall environmental health.

LID technologies which are appropriately designed and maintained have been shown to drastically improve water quality in the downstream surface waters from development areas in which they are deployed. This reduction of pollutants is the key goal of the watershed basin wide strategy of meeting the TMDL requirements set forth by rule 62-302 F.A.C. County waterbodies are currently exceeding maximum thresholds for nitrogen, phosphorus, and fecal coliform. Twenty-six (26) impaired waterbodies have been identified within the county, with six (6) previously adopted TMDLs for Blackwater River-marine (WBID 24AB), East Bay River-marine (WBID 701A), Judge Bayou-freshwater (WBID 493A) Judges Bayou-tidal (WBID 493B), Escambia Bay-North (WBID 548AA), and Escambia River (WBID) 10F). Additionally, several others are being evaluated for TMDL adoption. The manual proposed would aid in County-wide improvement of those impaired bodies and community feedback on specific strategies they would be willing to use.

One important aspect to remind the community is that LID techniques can be applied at any stage in development. This is important for those who have already completed construction and are left wanting more progressive methods for stormwater management. The manual would assist local planners, developers, and decision makers in understanding and incorporating green alternatives into existing gray features. Some but not all of the practices to be discussed in the manual include: soil amendments, green roofs, bioretentions, tree infiltration boxes, permeable pavements, planted swales and ditches, rain barrels and gardens, and continuous green space connectivity. The manual will also fully outline maintenance practices require of each type of LID project to encourage long-term effectiveness of LID projects.

This manual along with other programs already in effect within the County will continue to lay the foundation for a sustainable, effective plan to reduce negative environmental and socio-economic impacts on the valuable resources. Through enhanced large-scale participation in site development planning that incorporates LID techniques, the County will work toward improved water quality and flood resilient communities.

Project Effectiveness Evaluation:
Beginning in months 1 & 2 of award period, monitoring equipment will be installed in both stormwater retention areas and will be monitored for 8 months. Control data from Site 1 will provide information on stormwater mitigation when no trees are present in contrast with data from Site 2 pond. The adoption of innovative stormwater Low Impact Design (LID)/Green Infrastructure (GI) technologies is challenging for many communities. Wider diffusion of LID/GI can be promoted by having ready and relevant examples of projects and policy that facilitate them. This project proposes a LID/GI demonstration project to collect and provide monitoring data on the use of trees on Santa Rosa County or municipally-owned lands, including parks or natural areas, as well as highway and street rights-of-way that are engineered to retain and treat stormwater as an effective way to augment existing stormwater management systems, increasing their capacity and improving water quality while greatly improving urban forest canopy. The project will include drafting proposed internal policy language for Santa Rosa County municipal documents on

policies for installation and maintenance of LID/Green Infrastructure for County owned stormwater sites and a review of the Santa Rosa County comprehensive plan to identify potential policies that might conflict with or make LID/Green Infrastructure implementation more difficult.

Routine visual inspections will be conducted at the bioretention and permeable pavement areas at the BOCC demonstration site. Rainfall data collection will be record to adequate mimic natural mean rainfall projections to minimize replanting efforts and Florida Friendly native species will be planted to reduce invasive and the need for weed removal. Pavements will also be visually inspected monthly to ensure additional maintenance such as vacuum removal is not needed.

Rain gardens are considered one the best BMPs for stormwater quality control by their creative use of both physical and microbiological remediation processes. The removal effectiveness of rain gardens has been studied during field and laboratory studies conducted at the University of Maryland (Davis et al., 1998). Bioretention has been shown to be effective at removing 90 percent of bacteria, 90 percent of organics, 90 percent of total suspended solids, 70-80 percent of Total Kjeldahl nitrogen, 93-98 percent of metals, and 70- 83 percent of total phosphorus. SRC staff will work with the citizens award recipients to ensre proper design, maintenance, and data collection to incorporate into the manual for others' to better understand they too can participate.

Pollutant Load Reductions/Outcomes and Outputs:
At this time SRC has not completed a BMPTRAINS model fully but has the confidence and support of partners with the expertise and knowledge to ensure the successful reduction of nutrient loading. Prior to the start of the project, SRC staff will work to have more concrete numbers as baseline goals for the outcome of this project.

Project Funding and Timeline:

Task Name	Grant Funding	Match Funding
Tree Planting Task	$15,120	$697
BOCC Bioswale Task	$62,500	$21,683
Rain Garden Task	$2,000	$2,417
Manual Task	$0	$11,890

e. Estimated Project Start Date: July 1, 2022
f. Estimated Project End Date: July 1, 2024

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PROJECT 4: Continued Expansion and Sustainability of the Florida-Friendly Landscaping ™ Program to Protect Water Quality From Stormwater Runoff and Nonpoint Souce Pollution

PROJECT TYPE: Education

PROJECT FUNDING REQUEST: $279,463
MATCH COMMITMENT: $1,179,954

LEAD ORGANIZATION:
Florida Cooperative Extension Service,
University of Florida, Institute of Food and Agricultural Sciences (UF/IFAS)

CONTACT:
Esengul Momol, Director
Florida-Friendly Landscaping™ Program
University of Florida
Environmental Horticulture Department
PO Box 110675, Gainesville, FL 32611-0675
Phone: (352) 273-452 Fax: (352) 392-1413
eam@ufl.edu

FINANCIAL COOPERATING PARTNERS: FDEP and UF/IFAS

OTHER COOPERATING PARTNERS:
The Florida-Friendly Landscaping™ (FFL) Program has grown to become a cooperative effort involving many organizations including the state's water management districts, utilities, city and county governments, the Suwannee River Partnership, the Department, Florida Nursery, Growers, and Landscape Association (FNGLA) and many other industry and civic groups, along with other UF/IFAS programs (Program for Resource Efficient Communities-PREC, Florida Master Gardener Program, Integrated Pest Management Florida, and the UF Water Institute).

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
FFL is an educational outreach program that covers the entire State of Florida. The 319 funding will be spent on BMAP and RAP areas of Florida.

PROJECT ABSTRACT: This project is a continuation of the FFL program, a statewide Extension outreach program run for over twenty years as a partnership between the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), the Florida Department of Environmental Protection (FDEP) and the EPA. The program's top priority is to prevent nonpoint source pollution associated with urban landscaping and landscape maintenance, specifically by minimizing potential runoff/leaching of landscaping and turfgrass fertilizers (especially nitrogen), as well as pesticides. FFL educational outreach promotes nine principles of urban landscape design and maintenance that decrease fertilizer and pesticide use, and facilitates substantial water savings through more efficient home irrigation.

PROJECT OBJECTIVE(S): The primary focus for FFL is public education on the nine FFL principles delivered statewide through UF/IFAS Extension; and training and certification of landscaping professionals through the Green Industries Best Management Practices Program. The nine principles are:

1. Right Plant, Right Place -- promotes landscaping plant selection that matches a site's soil, light, water, and climatic conditions so that, once established, they will require little to no supplemental water, fertilizer, or pesticides.
2. Water Efficiently -- emphasizes landscape design that groups together plants with similar water needs; install zoned irrigation systems with rain shutoff devices or soil moisture sensors.
3. Fertilize Appropriately – provides UF/IFAS recommendations for proper fertilizer application rates and methodology to minimize potential nutrient runoff and leaching.
4. Mulch – promotes proper use of mulch to retain soil moisture, protect plants, and inhibit weed growth.
5. Attract Wildlife – promotes landscaping plants used for food, water, and shelter by birds, butterflies, bats, and others.
6. Manage Yard Pests Responsibly – promotes Integrated Pest Management (IPM), a strategy that helps gardeners manage pests with as few chemicals as possible.
7. Recycle Yard Waste – promotes composting of yard waste for subsequent use as a soil amendment.
8. Reduce Stormwater Runoff – promotes landscape design features such as rain gardens, berms, or swales that slow runoff from heavy rains and allow the water time to soak into the ground.
9. Protect the Waterfront – promotes a 10-ft wide "maintenance free zone" around lake, river, and stream shorelines within which no fertilizer is applied.

FFL has served Florida citizens as a nonpoint source pollution prevention and water conservation program for more than 20 years. During that time the program has evolved to reach multiple target audiences that include residential homeowners, community builders/developers/property managers, and landscaping professionals in the green industries. Effective public outreach to these diverse audiences requires multiple outreach methods.

PROJECT DESCRIPTION: Outreach methods to FFL's primary target audiences are described below:

<u>Target Audience: Residential Homeowners</u>
Florida already has some 20 million residents in nearly 8 million households; however, this population is projected to grow to nearly 26 million over the next two decades. Public outreach to Florida's diverse and ever growing population is likewise an ever growing challenge for the FFL program. For this reason the FFL program has a dedicated program component called the Florida Yards & Neighborhoods (FYN) program that interfaces primarily with residential homeowners or homeowners/property associations. The FFL state office staff includes a statewide FYN coordinator who coordinates with county-based Extension agents and FFL coordinators throughout the state, ensuring that programming for the FFL nine principles is delivered in a comprehensive and consistent manner. The county-based Extension agents and FFL coordinators mean that FFL is active in 47 of Florida's 67 counties. Each year, in collaboration with the

statewide UF/IFAS Extension network, the FYN program distributes many thousands of printed copies of its two main publications:

1. The Florida-Friendly Landscaping™ Guide to Plant Selection & Landscape Design (http://ffl.ifas.ufl.edu/pdf/FYN_Plant_Selection_Guide_2015.pdf)

2. The Florida Yards & Neighborhoods Handbook (http://ffl.ifas.ufl.edu/materials/FYN_Handbook_2015_web.pdf)

The last print run for the plant selection guide was for 40,000 copies. Numerous other publications are also available online (http://ffl.ifas.ufl.edu/homeowners/publications.htm).

In addition, FFL works closely with the UF/IFAS Master Gardener (MG) program, which is a statewide network of nearly 4,700 volunteers organized through MG programs at the county level. MGs undergo extensive training on all aspects of Florida gardening, including comprehensive training on FFL. In turn, the MGs conduct myriad gardening workshops year around throughout Florida targeted at the landscaping needs of Florida residential homeowners. The MG program closely tracks all volunteer hours and interactions with the public. The state Master Gardener Coordinator estimates FFL-related activities - workshops, consultations, and public events - comprise an estimated 50% of the Master Gardener's volunteer efforts. Also, during 2019 alone, the nearly 4,700 Master Gardener volunteers statewide spent some 163,193 hours promoting FFL concepts and reached 162,652 Floridians. While volunteers are of course unpaid, their volunteer time is valued at $22.04 per hour, which translates to $3,596,774 in value to Florida citizens. All FFL program concepts promoted through the Master Gardener program were developed through the FFL state office and its network of UF/IFAS faculty specialists.

To facilitate statewide consistency in FFL educational outreach, the FYN state coordinator, in collaboration with the FFL team and UF/IFAS faculty advisors, recently completed an updated and revised FFL curriculum that provides consistent training in educating Extension agents about FFL practices. The curriculum update includes a new 322 page curriculum manual, *The Florida-Friendly Landscaping™ Curriculum Instructor Manual*, which provides extension professionals and FFL educators a science-based, standard training curriculum detailing the nine FFL principles. The curriculum includes ten modules, each with a lesson plan, guided learning activities, a standard PowerPoint presentation, and both a pre- and post-test. The lesson plans outline the learning objectives and activities that complement each PowerPoint presentation, while the pre- and post-tests measure knowledge gain on a county level. Educators are encouraged to use the six month follow up FFL Behavior Change Survey. This survey measures behavior change as a result of attending FFL training and is designed to help develop impact reporting. Details on how to participate in this survey can be found on the FFL FYN Educators Log in Site http://ffl.ifas.ufl.edu/educators/index.htm (password protected link). This standard training curriculum facilitates a science-based, consistent message for presenting the FFL principles statewide.

Target Audience: Builders/Developers/Property Managers:
This past year has seen a dramatic increase in construction and development. As Florida's population continues to grow and more new master-planned residential land development projects

are launched the FFL Builder & Developer (B&D) program is more important than ever. Decisions associated with these large scale projects will significantly and directly impact the availability and quality of Florida's water resources, which in turn will determine the resilience and sustainability of Florida's urban, agricultural, and natural systems. Making more resource-efficient design, construction, and management choices in residential landscapes offers the potential to significantly and measurably conserve and improve the quality of Florida's water resources.

The goal of the FYN program for builders and developers is to develop, implement and evaluate new and existing UF/IFAS programs that reduce consumptive use of water, improve water quality, and protect and conserve natural resources. FYN programs cultivate professional partnerships with builders, developers and other professionals such as land planners, community developers, home builders, landscape architects, government officials, engineers, community association managers, realtors, environmental consultants, urban planners and, utility representatives.

The B&D program encourages environmentally sensitive land planning and low impact development techniques. By collaborating with professional and trade organizations, including the Florida water management districts, Florida Green Building Coalition, Florida Irrigation Society, the B&D program encourages environmentally sensitive land planning and low impact development techniques.

The B&D program provides model code development documents including the following publications:

- FFL Model Covenants, Conditions and Restrictions for New and Existing Community Associations
- A list of considerations for FFL guidelines for architectural review boards
- Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes
- FFL Model Landscape Maintenance Contract

Target Audience: Green Industry Professionals

The Green Industries Best Management Practices (GI-BMP) Program is a major component of the overall FFL program. The GI-BMP program targets all landscape professionals within Florida who apply fertilizer commercially as a landscaping business owner or landscaping crew member. In Florida, all such persons must have a Limited Urban Commercial Fertilizer Applicator's License from the Florida Department of Agriculture. To get this license, a green industry professional must first complete the UF/IFAS GI-BMP training and pass a comprehensive certification exam.

GI-BMP training is offered year around throughout Florida through UF/IFAS Extension and affiliated partners. GI-BMP training consists of six modules covering all aspects of the FFL nine principles, but with a special emphasis on proper fertilizer application.

The six GI-BMP training modules are:

1. Introduction
2. Best Management Practices for Design and Installation of Landscapes
3. Irrigation Best Management Practices
4. Mulching, Mowing, and Pruning
5. Fertilization

6. Pest Control

GI-BMP training is delivered through multiple outreach methods including a traditional classroom setting with an in-person instructor, an online course, and a DVD-based course. In-person classes are offered in English, Spanish and Haitian Creole. The online and DVD-based courses are offered in English and Spanish. Statewide, there are some 250 active GI-BMP instructors comprised of UF/IFAS Extension agents and green industry professionals.

In-person training requires a full day in the classroom. The online and DVD-based courses are self-paced, but include the full training contents of the classroom course. During 2020, and despite the Covid-19 related disruptions, the GI-BMP program conducted 56 in-person training classes (7 in Spanish, 49 in English). These in-person training classes were held at various venues and had a total attendance of 830, with 564 passing the exam and receiving their GI-BMP certification. (Not all persons who take the in-person course take the certification exam.) An additional 1,856 persons were certified through the online option and 277 through the DVD-based course. All persons earning their GI-BMP certification are eligible to apply for their Limited Urban Commercial Fertilizer Applicator's License from the Florida Department of Agriculture. Since the GI-BMP program's inception in 2006 (and through December 2020), a total of 67,784 persons were trained through either the in-person, online, or DVD training formats and, of this number, 57,050 received their GI-BMP certification.

More Detailed Breakout of Activities funded under this Grant:

FFL Program Implementation: The Grantee will implement the FFL program to reduce nonpoint source pollution through education on the nine FFL principles through the following approved activities:

FYN Program

1. Educate and work with target audiences who affect urban landscapes. Provide training and information to the focus audience on FFL principles through workshop(s), providing material(s) through distribution location(s), upon request and online. The "focus audience" may include homeowners, homeowners associations, 4-H extension and other youth outreach, master gardeners, retail gardening stores, and parks and recreation areas.
2. Respond to County UF/IFAS Extension office(s) and public request(s) for information and material(s).
3. Provide homeowner recognition/re-recognition for incorporating the FFL principles.
4. Develop and maintain training curriculum, educational material(s), on-line material(s) and manual(s) on FFL principles for education of the focus audience.
5. Coordinate and meet with other agencies and organizations to discuss and/or present information on FFL principles to further the adoption of the FFL principles and practices.
6. Provide training, programmatic and technical support on the FFL Program to UF/IFAS Extension Service agents statewide who coordinate FFL activities.
7. Explore ways to ensure a continuation of the successful implementation of the FFL program.
8. Develop and maintain FFL demonstration gardens.

9. Develop ways to improve the FFL program and outreach, through new/updated material(s) or new modes of outreach. This can include collaboration with other UF Faculty advisors to produce science-based research on the FFL principles for publications.
10. Follow relevant research including land use and zoning practices, environmental impacts, and regulatory and Extension criteria to develop and improve outreach content.
11. Evaluate the FYN program effectiveness using tools such as surveys, nutrient pollution reduction data, and water savings data.
12. Oversee staff that implement the FFL Program and collaborate with the UF/IFAS Extension Agents that participate in the implementation of the FYN program statewide.
13. Compile reports from other entities including County UF/IFAS Extension office(s) to assess the outcomes, impacts, and successes of the FFL program.
14. Assist with preparation of reports related to program activities and outcomes.

FFC Program

1. Educate and work with target audiences who affect urban landscapes. Provide training and information to the focus audience on FFL principles through workshop(s), public meetings, providing material(s) through distribution location(s), upon request and on-line. The focus audience may include stakeholders involved in development and redevelopment including but not limited to builders, developers, planners, muncicpality staff and elected officials, special districts, landscape architects, real estate agents and professional associations.
2. Respond to County UF/IFAS Extension office(s) and public request(s) for information and material(s).
3. Provide recognition for incorporating the FFL principles.
4. Develop and maintain training curriculum, educational material(s), on-line material(s) and manual(s) on FFL principles for education of the focus audience.
5. Coordinate and meet with other agencies and organizations to discuss and/or present information on FFL principles to further the adoption of the FFL principles and practices.
6. Provide training, programmatic and technical support on the FFL Program to UF/IFAS Extension Service agents, municipality staff and elected officials, professional associations, and other stakeholders.
7. Explore ways to ensure a continuation of the successful implementation of the FFL program.
8. Develop ways to improve the FFL program and outreach, through new/updated material(s) or new modes of outreach. This can include collaboration with other UF Faculty advisors to produce science based research on the FFL principles for publications.
9. Follow relevant research including land use and zoning practices, environmental impacts, and regulatory and Extension criteria to develop and improve outreach content.
10. Evaluate the FFC program effectiveness using tools such as surveys, nutrient pollution reduction data, and water savings data.
11. Oversee staff that implement the FFL Program and collaborate with the UF/IFAS Extension Agents that participate in the implementation of the FFC program statewide.
12. Compile reports from other entities including County UF/IFAS Extension office(s) to assess the outcomes, impacts, and successes of the FFL program.
13. Assist with preparation of reports related to program activities and outcomes.

GI-BMP Program

1. Educate landscaping professionals on FFL principles and practices that protect surface and groundwater.
2. Three GI-BMP regional coordinators, one person per three strategic locations of the state, will operate under the direction of the GI-BMP state coordinator and FFL director to provide regional training programs and workshops and assist UF/IFAS County Extension agents, industry groups and local governments in meeting the education requirements of local ordinances requiring GI-BMP certification for landscaping workers. Each Regional Coordinator will have the milestone goal of teaching/coordinating 60 classes annually.
3. Assist in recruiting, training and coordinating activities of GI-BMP trainers following the guidelines set forth by the Department's "Train-the-Trainer" manual, with an emphasis on English and Spanish and Creole as needed. Provide GI-BMP training both in person and on-line to UF/IFAS extension agents, Master Gardener Green Industry Yard Advisors, other academically based GI-BMP trainers and related audiences on Principles and Application of GI-BMP and offer programmatic support whenever necessary.
4. Develop and maintain training curriculum, educational material(s), on-line material(s) and manual(s) on GI-BMPs. Provide training curriculum in other languages as appropriate based on the size and needs of the target audience.
5. Create, produce, order and/or distribute materials related to GI-BMP training including workshop announcements, web postings, letters, decals, certification materials, and other training materials as necessary.
6. Coordinate and meet with other agencies and organizations to discuss and/or present information on the GI-BMP program to further the adoption of the FFL principles and practices.
7. Develop ways to improve the GI-BMP program through new/updated materials or new modes of training. This can include collaboration with other UF Faculty advisors to produce science based research on the FFL principles for publications.
8. Assist GI-BMP trainers statewide with grading exams and issuing certificates.
9. Provide training oversight to ensure GI-BMP trainers are performing at the level needed for the successful implementation of the program. Maintain a database of certified trainers.
10. Provide GI-BMP materials to County UF/IFAS Extension office(s), to the public upon request, and through distribution locations and on-line materials.
11. Evaluate the GI-BMP program effectiveness using tools such as surveys, nutrient pollution reduction data, and water savings data.
12. Oversee staff that implement the FFL Program and collaborate with the UF/IFAS Extension Agents that participate in the implementation of the GI-BMP program statewide.
13. Compile reports from other entities including County UF/IFAS Extension office(s) to assess the outcomes, impacts, and successes of the FFL program.
14. Follow relevant research including land use and zoning practices, environmental impacts, and regulatory and Extension criteria to develop and improve outreach content.
15. Conduct pre- and post-training surveys to measure behavior change as a result of this program.
16. Identify future funding partnerships.
17. Meet regularly with program partners to accomplish project objectives and to constantly evaluate the program needs.

18. Provide additional statewide support, as needed, to the FFL and GI-BMP programs

REPORT

The Grantee will prepare a Final Report summarizing the results of the project, including all tasks in the Grant Work Plan. The Final Report must include at a minimum:

1. Project background, project description and timeline, grant award amount and anticipated benefits.
2. Financial summary of actual costs versus the budget, along with any changes required to the budget. Include any match or locally pledged contributions provided, along with other related project work performed outside of this Agreement to identify the overall project cost.
3. Discussion of project schedule versus actual completion, including changes required to the schedule, unexpected adjustments, significant unexpected delays and corrections, and/or other significant deviations from the original project plan.
4. Summary of activities completed as well as those not completed and why, as well as a summary of future goals for the FFL Program.
5. Numbers of workshops and presentations provided and/or coordinated by UF staff that deliver FFL educational materials to the public and UF/IFAS Extension communities.
6. Numbers of new Master Gardeners, Homeowner Associations, Community Association Managers, Property Managers, Landscape Architects, and others trained in FFL principles.
7. Summary of UF/IFAS County accomplishments and FFL success stories as reported by UF/IFAS County Extension agents.
8. Summary of science-based initiatives, research and development activities that are underway that have implications regarding the nine principles and benefits of FFL programming.
9. Summary of BMAP credits and load reductions due to implementation of FFL principles.
10. Summary of water savings due to implementation of FFL principles.
11. FFL Yard Recognition/re-recognion database statistics such as number of property visits, number of new yard recognitions, the results of each visit, information provided, and number of UF/IFAS Extension agents using FFL Yard Recognition database.
12. Discussion of the education campaign effectiveness, including any measurements used to evaluate the project (surveys, estimated audience size, etc.).
13. Discussion of whether the anticipated benefits have been/will be realized (e.g., why an educational approach did or did not exceed the expectation).

EFFECTIVENESS: The FDEP TMDL program recognizes an active FYN program within a county or municipality as an effective project component when developing nonpoint source load reduction alternatives for inclusion in BMAPs for impaired waters. For example, when calculating nitrogen load reductions for impaired waters, an active FYN program allows up to 3% of the starting nitrogen load to be credited as nitrogen removed towards meeting the TMDL nitrogen loading goal.

Pollutant Load Reductions/Outcomes and Outputs:

This is an education project. Traditional load calculations cannot be performed for this project. Surveys will be used to assess behavior change to reduce personal pollution. The project is funding implementation of the Florida-Friendly Landscaping Program for one year (estimated start date of

April 2022), which has a statewide reach (covering all BMAP Watershed areas) with Extension Agents in every Florida County and has extensive outreach assisting Florida residents, landscape professionals, and municipal workers how to change behavior to reduce nonpoint source pollution.

Projected Goals FY22	Projected Goals
GI/BMP Training (Certifications, all training formats)	2,500
FFLCP Course Completions	30
FFL CEU Course Completions (online)	200
Webinars (State Office)	
FYN for Homeowners (monthly)	1,200
FFL for Professionals (monthly)	1,100
GI-BMP Instructor Update (every other month)	180
Social Media Interactions (State Office)	
Facebook (Followers/Posts)	10,000/150
Instagram (Followers/Posts)	1,500/100
FFL Website Visits (State Office, https://ffl.ifas.ufl.edu/)	
Sessions	65,000
Webviews	140,000
Print Materials to be Distributed (State Office)	
FFL Design Guide	4,500
GI-BMP Manuals	5,000
FYN Handbook	6,000
FFL Folders	2,000
FFL Community Association Guide	150
Brochures (various)	10,000
Number of Conferences/Workshops Attended	10
County-based Attendance (All group learning formats, includes workshops/webinars)	50,000

PROJECT BUDGET:
The grant will fund eight full time salaried positions, 2 or more OPS positions (1.5 FTE), along with the associated costs, such as expenses, supplies and travel, required to carry out the activities described in the above task. The overall project funding amount is the same as previous years, with a smaller funding request to 319 and a larger portion paid out of the State DEP funds.

PROJECT GOALS:

Goal: Educate the public and industry through outreach and training.
(a) Action: Increase the use and understanding of Florida-friendly Landscaping™ (FFL) principles.
(b) Action: Educate green industry professionals about BMPs.

FFL	Grant	Match
Watershed	$ 279,463	$ 1,179,954

Estimated Start Date: July 1, 2022
Estimated End Date: July 31, 2024

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PROJECT 5: Public Education Program on Reclaimed Water and Non-point Source Management

PROJECT TYPE: Education

PROJECT FUNDING REQUEST: $100,000
MATCH COMMITMENT: $40,000

LEAD ORGANIZATION: Seminole County Government- Leisure Services Department- Extension Services Division

CONTACT INFORMATION:

Name: Tina McIntyre
Street Address: 250 W County Home Rd
City: Sanford, FL
Zip 32773
Phone: 407-665-5575
Email: kmcintyre02@seminolecountyfl.gov

SHORT PROJECT DESCRIPTION:

This pilot project team seeks to offer educational workshops on reclaimed irrigation water that will teach users all about the sourcing, chemical composition and potential impacts of reclaimed overuse. With the goal of behavior change as the focus of the workshops, we will encourage reclaimed irrigation Best Management Practices. To attract engagement, this funding would offer participants the choice of one free soil moisture sensor, rain sensor, smart irrigation controllers, rain gauge or Continuing Educational Units as available. Associated campaign materials will be developed in English and Spanish, and include infographics, PowerPoints, fact sheets, videos, a "How-To Guide" for FDEP's publication portal and a reclaimed calculator; a mixed mode of delivery including virtual and in-person as applicable.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:

Geographic Location of Project (e.g. city, county, street address):
Seminole County, FL
Latitude (decimal degrees): 28.74355273987393,
Longitude (decimal degrees): -81.30015084551955

Provide the name of the waterbody(s) that this project addresses:
BMAPs: Wekiva Springs and River, Lake Jesup, St. John's River, Lake Harney and Monroe.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
All within Seminole County
List the parameter(s) the waterbody is impaired for that this project addresses.
Nitrogen and Phosphorus

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

DETAILED PROJECT DESCRIPTION:
Reclaimed water is a vital part of Florida's water conservation efforts. Its use enables us to recycle and reuse water for non-potable purposes, such as landscape irrigation, while reducing the use of drinking-quality water from on the finite Floridian aquifer. This is a benefit to the future supply of water in the area, but it doesn't come without challenges. Seminole County is home to the National Wild & Scenic River, which is impaired for the nutrient's nitrogen and phosphorous. Wekiva Springs, along with Lake Jesup also in the county, have Basin Management Actions Plans to remediate the waterbodies from these nutrients. Reclaimed water is human wastewater that is only treated to the secondary-level and still contains nutrients. As people use their reclaimed irrigation systems, water improperly applied can leach or runoff (https://edis.ifas.ufl.edu/ss587), causing increased loading into our lakes, rivers and streams. Worse, because it is typically offered at a reduced cost to the homeowner and exempt from Water Management District regulations, over-irrigation can occur, leading to increased runoff and leaching and rapid decline of landscape plants.
This project team seeks to serve as a pilot to offer educational workshops on reclaimed irrigation water that will teach users all about the sourcing, chemical composition and potential impacts of reclaimed overuse.

With the goal of behavior change as the focus of the workshops, we will encourage irrigation Best Management Practices (BMPs) including but not limited to:
Irrigation maintenance

- Irrigation calibration
- Micro-irrigation
- Smart irrigation technology
- Soil moisture and rain sensor technology
- Slow-release fertilizers
- Stormwater runoff and leaching
- Plant zone groupings

To attract engagement, this funding would offer participants the choice of one free soil moisture sensor, rain sensor, smart irrigation controllers, rain gauge or Continuing Educational Units (CEUs) as available. These "offerings" would entice both residents, landscape professionals and agricultural entities alike, all users of reclaimed water, to attend and complete the class, and help them to improve or enhance their implementation of the BMPs and utilization of reclaimed water.

To create the workshop and associated materials, the following deliverables will be developed in English and Spanish:

- Infographics on reclaimed water
- Multimedia presentations (including PowerPoints)
- Fact sheets
- Videos

Project start date would be sometime in 2022, however the project could begin earlier if funding is available. With Covid-19 changing the way people expect to be able to engage in such workshops, the project implementation team is planning for a mixed mode of delivery including virtual and in-person as applicable.

We would also like to create a reclaimed calculator, that would help residents receiving reclaimed from their utility to better understand concentrations in the water. Though these nutrient levels vary, averages could be provided to participants through an online interface that would better assist them in determining a proper fertilizer regimen. Pinellas County has already created a similar calculator and can be found here http://pinellas-egis.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=063e6681420e4910aa056bd5f087b292. This calculator would be covered in the workshops and social media, collaboration with the 7 cities within Seminole, press releases, bill inserts for Seminole County Utility clients and other notification options would alert the public of this valuable tool. With the project team coming from various divisions, possible marketing avenues include partners such as: Friends of Wekiva, Community Association Institute, FL Nursery Growers and Landscape Association, Farm Bureau, FL Dept. of Ag. And Consumer Services, Turfgrass Association.
Towards the completion of the project, the team would like to create a "Reclaimed How-To Guide" for FDEP's publication portal
https://content.govdelivery.com/attachments/FLDEP/2020/08/26/file_attachments/1527184/NPS%20Education%20Toolkit.pdf

To achieve these project goals, the majority of the funding would contribute to a contracted part-time employee, a Reclaimed Educator, paid no more than $18.00 per hour, that would assist in delivering the educational workshops, coordinate the distribution of the offerings, develop materials, facilitate the creation of the Reclaimed Calculator and support the program as a whole. This Educator would report directly to Seminole County Extension Services; specifically, the Florida-Friendly Landscaping and Sustainable Agriculture Agents.

If this pilot program is successful, efforts would be made to secure funding to continue the programming. A preliminary conversation with the County Extension Services Director signaled that a formal request could be made to the county providing proof of the successful program. Alternative funding could be requested though the various departments within UF/IFAS, as there are always funding opportunities. Regardless, the Agents will continue the education to clientele through UF/IFAS Extension Seminole County educational programming.
The current FFL Agent is funded 90% by the county, 10% by the UF FFL/FDEP program. The Sustainable Ag. Agent is funded fully by the county and UF (non-FFL/FDEP). This funding would allow for additional program development beyond what is currently feasible. Without this funding, this programming cannot be done.

With reclaimed being a part of industry and residential growth here in Central Florida for several decades, it has played a big role in water conservation. However, in a recent search for reclaimed information from reliable sources, such as the Florida Department of Environmental Protection, The Water Management Districts or UF/IFAS, there is little current information around reclaimed for the public to easily access. This project would be a pilot project for other counties

around the state to implement similar educational efforts related to reclaimed and provide the foundational groundwork necessary for them to easily implement such an undertaking.

Pollutant Load Reductions/Outcomes and Outputs:
This is an education project. Traditional load calculations cannot be performed for this project. Reclaimed water has nutrients and according to the Florida Stormwater Association, when overused, it can degrade surface waters. Educating residents and industry professionals to promote behavior change will prevent loading to waterbodies.

Projected Goals include:

- In-person and virtual workshops (as appropriate) offered at least once per month.
- Workshops will host 20-500 participants depending if they are offered in-person or virtually. Participants will include residents. HOAs, Landscapers, Agriculture, Community Association Managers among others.
- Surveys, how-to guide and sharing materials with state-wide colleagues

Project Effectiveness Evaluation:
All workshops will be evaluated by surveying participants to better understand knowledge gained, intent to change (in class) and actual behavior change (3-6 months after class). Surveys will be used to evaluate if the workshops are effective and adaptive management will be used.

Project Funding and Timeline:

Task Name	Grant Funding	Match Funding
Administrative staff	$0	$40,000
Reclaimed Educator	$75,000	$0
Incentives	$25,000	$0

Estimated Start Date: July 1, 2022
Estimated End Date: September 30, 2026

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PROJECT 6: Seminole Street Alley Way Improvements

PROJECT TYPE: Stormwater

PROJECT FUNDING REQUEST: $274,007
MATCH COMMITMENT: $952,914

ENTITY/SPONSOR NAME: City of Stuart

CONTACT INFORMATION:
Name: Pinal Gandhi-Savdas
Street Address: 121 SW Flagler Avenue
City, State, Zip: Stuart, FL 34994
Telephone: 772-283-2532
Email: pgandhi@ci.stuart.fl.us

SHORT PROJECT DESCRIPTION: The City is proposing to re-construct Seminole Street utilizing permeable paver block Best Management Practice (BMP) to serve the roadway and on-street parking surfaces. The permeable paver block is a structural BMP which filters stormwater runoff as it moves vertically through the system by infiltrating through the joints in the paver units and filling the void spaces in the storage bed of open-graded aggregate laying immediately below the permeable paver block.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address): City of Stuart Community Redevelopment Area. The project will be along SW Seminole Street from SW St. Lucie Avenue to S Colorado Avenue within the Historic Downtown District.
Size of Project Impact (area needed to build project): 0.53 acres
Size of Area Being Treated: 0.53 acres
Latitude (decimal degrees): 27.19941
Longitude (decimal degrees): -80.25373

Provide the name of the waterbody(s) that this project addresses:
St. Lucie River and Estuary

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
3193

List the parameter(s) the waterbody is impaired (i.e., not achieving standards) for those WBIDs that this project addresses.
Nutrients: nitrogen, phosphorus, biological oxygen demand

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

DETAILED PROJECT DESCRIPTION:
The City is proposing to re-construct Seminole Street within the historic downtown utilizing permeable paver block Best Management Practice (BMP) to serve the roadway and on-street parking surfaces. The permeable paver block is a structural BMP which filters stormwater runoff as it moves vertically through the system by infiltrating through the joints in the paver units and filling the void spaces in the storage bed of open-graded aggregate laying immediately below the permeable paver block.

The project is expected to improve water quality discharges to the St. Lucie River and Estuary by retaining up to the first 1.4" of runoff from within the roadway corridor and allow for percolation into the soils that lay beneath, where bacteria and other microbes can break down and utilize nutrients within the runoff. This project will contribute to the overall total nitrogen and total phosphorous discharge reductions into the St. Lucie River and Estuary from with the City's urban downtown core.

The permeable paver block strategy is a cost-effective BMP strategy that can be implemented within property owned by the City when compared to conventional stormwater management strategies such as ponds or swales which would require identifying developed and/or undeveloped property located within the urban downtown core to enable this more conventional strategies to be constructed and operated. This BMP eliminates the need for right of way acquisition within the downtown core.

The Stuart Community Redevelopment Agency will install education signage near a high-traffic area as a self-guided educational and tour experience of the permeable paver block system. The CRA will partner with MainStreet, Downtown Business Association and Martin County Tourism office to feature the site as a destination. Informational signage will allow visitors to learn about stormwater runoff and water pollution management practices to reduce stormwater runoff, as well as ways to implement best practices in their own spaces.

Project Effectiveness Evaluation:
While the City is not opposed to sampling, we would find the collection of water quality samples very cumbersome and hazardous to collect due to the location of the inlets within the roadway envelope where sampling would need to be performed. In addition, due to the higher concentration of pollutants in the initial runoff flush and City's anticipated challenging ability to perform sampling during and/or immediately following a storm event we would question the representative benefit associated with the collected data.

Pollutant Load Reductions/Outcomes: The nutrient load reduction was estimated using the University of Central Florida BMP Trains Model.

BMP #1 Name: Pervious Pavers

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**1.39**	**9.67**
% Reduction	**73%**	**73%**

Project Funding and Timeline:

Description	Grant Funding	Match Funding
BMP Construction	$274,007	$952,914
Education (319 only)	$0	$0
Monitoring (319 only)	$0	$0
Final Report	$0	$0

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: March 30, 2024

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PROJECT 7: Martin County Connect to Protect Septic to Sewer Conversion Nutrient Removal Program

PROJECT TYPE: OSTDS

PROJECT FUNDING REQUEST: $850,000
MATCH COMMITMENT: $1,755,000

ENTITY/SPONSOR NAME: Martin County

CONTACT INFORMATION:
Name: Samuel Amerson
Street Address: 3473 Willoughby Boulevard, Suite 102
City, State, Zip: Stuart, FL 34997
Telephone: 772-223-7942
Email: samerson@martin.fl.us

SHORT PROJECT DESCRIPTION:
This project is part of a septic tank elimination program which will significantly improve water quality and Indian River Lagoon (IRL) vital signs. The proposed project will include installation of a vacuum sewer and water service system consisting of 1,075 vacuum connections and associated force main and appurtenances. These connections will serve an estimated population of 2,580 persons who will experience many crucial benefits because of this conversion.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address): Community of Old Palm City, approximately one mile from the City of Stuart, FL.

Size of Project Impact (area needed to build project): 1,084 connections for vacuum sewer system; 100 connections for grinder pump stations; eliminating 850 septic tanks.

Size of Area Being Treated: 1,068 acres

Latitude (decimal degrees): 27.165
Longitude (decimal degrees): -80.266139

Provide the name of the waterbody(s) that this project addresses:
This project addresses the drainage to the St. Lucie River and Estuary Basin, which eventually discharges into the Indian River Lagoon. Both water bodies are negatively impacted by high nutrient concentrations and are considered impaired.

Project is listed in the St. Lucie River and Estuary Basin Management Action Plan for nutrient reduction implementation.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
3208B and 3193

List the parameter(s) the waterbody is impaired (i.e., not achieving standards) for those WBIDs that this project addresses.

Nutrients: nitrogen, phosphorus, and biologica oxygen demand

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?

No

DETAILED PROJECT DESCRIPTION:

Martin County is requesting grant funding and providing matching funds for their Connect to Protect Septic to Sewer Program for both vacuum sewer and grinder sewer systems within its Service area. The County requests grant assistance for 1,075 vacuum sewer connections in the FY2020-2024 Connect to Protect Septic to Sewer Program. There are a total of 4,645 connections available for connection in the vacuum sewer system through 2024. The applicant, Martin County, is seeking 319h grant funding to connect 1,075 of the potential vacuum septic to sewer applicants in Old Palm City to the MCU sewer system. The total cost for vacuum sewer connections in Martin County ranges from $17,000 to $22,000 per connection. The estimated cost for each vacuum sewer lateral connection to the vacuum pit and septic tank abandonment is $2,500 per household. This request is for approximately $1,000 per connection for the first 750 connections and septic tank abandonments, for a total of $750,000. The match for this request is the cost for the remaining same 750 connections at $1500 per connection and septic tank abandonment for a total of $1,125,000 in matching funds.

As part of this application Martin County (MC) is requesting grant funding and providing matching funds for 100 grinder pump station connections and related septic tank abandonments for the FY2020-2024 Connect to Protect Septic to Sewer Program. The total cost for grinder pump station connections in Martin County are estimated at $11,400 per connection. MCU currently has 2,118 homes available for grinder pump station connection through 2024. The estimated cost for each sewer connection and septic tank abandonment is $7,300 per household. MCU is requesting $1000 per connection for 100 grinder pump stations and septic tank abandonments, for a total of $100,000. The local match is 100 grinder systems at $6,300 per connection for a total of $630,000 in matching funds.

This project will eliminate septic tanks and connect residents to the Martin County sewer system, which will remove TN/TP/BOD/Fecal pollution sources and thereby improve water quality. The project's geographical location in Old Palm City means that there will be a significant reduction of the nitrogen and phosphorous load to the St. Lucie River Estuary and Basin, as well as the Indian River Lagoon. In addition to water quality improvements, the removal of such pollutants will also improve the sea grasses and associated flora and fauna in these bodies of water.

The removal of septic tanks is one of the most cost-effective methods for removal of nutrients and other pollution sources. By connecting residents to the sewer system, septic tank system related nutrient contributions will be removed, thereby restoring water quality. The calculated cost effectiveness for this project is $33 per pound of TN removed and $227 per pound of TP removed.

The Water Management District Cost Effectiveness Calculator was used to determine these cost per pound values.

This Martin County Connect to Protect Septic to Sewer Conversion Program is extremely important to the health of the St. Lucie River and Estuary Basin and the IRL. Implementation of this program will improve water quality and IRL vital signs evaluated as part of the IRL restoration program including: seagrasses, filter feeders, contaminants, legacy loads, wastewater, impaired waters, biodiversity, species of concern, forage fishes, fisheries, harmful algal blooms, marinas and boating, emergency response, monitoring and data, distinctive lagoon communities, and the overall state of the IRL.

Implementing these program projects is extremely urgent to the Martin County Board of County Commissioners as evidenced by approval of a board directed policy on 3/26/19 to accelerate the conversion of existing homes from onsite sewage treatment and disposal systems (septic tanks and drain fields) to County sewer infrastructure via individual grinder stations. The policy for this voluntary connection program establishes procedures, fees, and perpetual MCU maintenance obligations for these new grinder systems.

Project Effectiveness Evaluation:
Martin County Utilities has completed hundreds of septic tank conversions in the recent past resulting in a significant reduction in nutrient contributions to nearby water bodies. There is a research-based understanding in the sewage industry that septic tank removal equates to a significant reduction in Total Nitrogen (TN) and Total Phosphorous (TP). Based on documentation cited in the references of this application, these reductions are in the range of 9 to 45 lbs TN per year per septic tank and 2 to 5 lbs TP per year per septic tank. The grant application basis for the Martin County calculation is 22.5 lbs TN per year per septic tank and 4.15 lbs TN per year per septic tank.

MCU has significant experience with monitoring well data in and around these septic service areas and will measure the overall success of this project with additional sample testing after the vacuum sewer and grinder pump station connections are installed. These measurements will be used to quantify the reduction in total nitrogen and total phosphorus associated with the conversion of the 1,075 septic connections to the County's sewer system. The reduction in nitrogen and phosphorus will be measured in the monitoring wells and through modeling using the GIS based software developed by the Florida Department of Environmental Protection (FDEP). This software, called ArcNLET (Nitrate Load Estimation Toolkit for ArcGIS), will be used to correlate the results of the post-conversion measurements with the understood reduction quantities.

Pollutant Load Reductions/Outcomes:

BMP #1 Name: Vacuum Sewer Septic to Sewer Connections

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**3,113**	**16,875**
% Reduction	**99%**	**99%**

BMP #2 Name: Grinder Station Septic to Sewer Connections

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**415**	**2,250**
% Reduction	**99%**	**99%**

TOTALS

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**3,528**	**19,125**
% Reduction	**99%**	**99%**

Project Funding and Timeline:

Description	Grant Funding	Match Funding
750 Vaccuum Sewer Connections	$750,000	$1,125,000
100 Grinder Pump Station Connections	$100,000	$630,000
Education (319 only)	$0	$0
Monitoring (319 only)	$0	$0
Final Report	$0	$0

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: April 30, 2026

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PROJECT 8: Rosemont Septic to Sewer Conversion Project

PROJECT TYPE: OSTDS

PROJECT FUNDING REQUEST: $471,000
MATCH COMMITMENT: $314,000

ENTITY/SPONSOR NAME: City of Orlando

CONTACT INFORMATION:
Name: Mira Tanna
Street Address: 400 S. Orange Ave., 4th Floor, P.O. Box 4990
City, State, Zip: Orlando, FL 32802-4990
Telephone: 407-246-2697
Email: mira.tanna@orlando.gov

SHORT PROJECT DESCRIPTION:
The City of Orlando is applying for a $471,000 319(h) grant for a septic to sewer conversion project in the Rosemont / Rosemont North neighborhoods. These residents are not connected to sewer although there are existing sewer and lateral lines in immediate proximity to their house. Connecting to sanitary sewer will decrease nutrient loads within the Wekiva basin and to impaired Lake Orlando. The City will work with 104 property owners to provide education and financial assistance to convert from on-site sewage treatment and disposal system and connect to the public sewer system.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address):
Orlando, Orange County
Project to take place in Rosemont/Rosemont North neighborhood bounded by Pine Hills (west), Clarcona Ocoee (north), US-441 (east), S. Lake Orlando Parkway (south)

Size of Project Impact (area needed to build project): 2.8 square miles
Size of Area Being Treated: 2.8 square miles

Latitude (decimal degrees): 28.609563
Longitude (decimal degrees): -81.447965

Provide the name of the waterbody(s) that this project addresses:
The project area drains to Lake Orlando, which is an impaired waterbody, and which discharges into the Little Wekiva River, which is also considered impaired. The entire area is within the Wekiva Study Area that is subject of the Wekiva Basin Management Action Plan.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
3004K, 3000

List the parameter(s) the waterbody is impaired for that this project addresses.

Lake Orlando: Nitrogen (latest value is 1,004 µg/L), Phosphorus (latest value 58 µg/L)
Little Wekiva Canal: Fecal Coliform (latest value 480 cfu/100mL) (Orange County Water Atlas)

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?

No

DETAILED PROJECT DESCRIPTION:

In 2018, the City of Orlando completed a study of onsite sewage treatment and disposal systems within the City of Orlando. Prepared by Barnes, Ferland and Associates, Inc. (BFA), the study identified locations of current septic systems and ranked priority levels for conversion to public sewer based on environmental and economic factors. BFA examined the nutrient reduction potential; the location with respect to the Wekiva Study Area; the potential benefit to impaired water bodies; and the proximity to existing lateral, gravity and force main lines. To implement the study's recommendations, the City of Orlando has selected the Rosemont / Rosemont North area as a priority area for septic to sewer conversion. The Rosemont North subdivision was constructed in 1986-87. Lateral lines have been constructed to each of the 79 households, though few residents have connected to public sewer. Private septic systems are now nearing the end of their useful life and are therefore more prone to leakage and failure. With 79 homes clustered on 35 acres of land, outreach and education efforts can be streamlined, and environmental services contractors can provide more competitive rates. The surrounding Rosemont neighborhood contains an additional 25 properties on septic. Although these properties are scattered around Lake Orlando, conversion to public sewer provides an even greater environmental benefit to the lake, which discharges to the Little Wekiva River.

The project will eliminate and safely decommission septic systems that will remove TN/TP/BOD/Fecal coliform sources, thereby improving water quality. The EPA places onsite sewage treatment and disposal systems among the top five sources of surface water pollution (Gibb 2018). Governor DeSantis's Blue-Green Algae Task Force also points to conventional septic systems as a "well-known and substantial source of nutrients to groundwater and surface waters across the state" and recommends "legislation and funding to accelerate cost-effective septic to sewer programs with the aim of reducing nutrient pollution that leads to harmful algae blooms" (Blue Green Algae Task Force 2019).

According to several estimates (Gibb 2018 and Young 2019), the average cost per resident to convert from septic to sewer is $15,000-$20,000. Because the City has already invested in lateral lines in the targeted area, conversion to municipal sewer is likely to be less than half of that cost. This project will also maximize the investment that the City has already made in the public sewer system in northwest Orlando. The City will track the number of septic systems that have been decommissioned, the number of households connected to municipal sewer and the cost per property to connect to evaluate the overall cost effectiveness of the project.

The City of Orlando will contact 104 property owners in the target area and provide education on the benefits of converting from septic to public sewer. Outreach efforts will raise awareness about the environmental benefits of converting to public sewer, as well as the long-term economic benefit. Property owners who agree to convert from septic to public sewer during the grant period

will receive financial assistance from grant and match funds to connect to the public sewer and to decommission septic systems so that they no longer pose an environmental hazard. The City of Orlando estimates the cost of connecting to the public sewer to be on average $5,000 per property, and the cost of decommissioning septic systems to be on average $2,500 per property.

Property owners will pay an impact fee to the City of Orlando for connecting to the public sewer, which for most homeowners will be $2,537.50. The City of Orlando will provide a septic tank abandonment credit, which for most homeowners will be $1,746. The remaining balance of $791.50 to be paid by property owners will be accepted on an installment basis at the request of the property owner in order to ensure affordability for the majority of property owners.

As part of the project, the City of Orlando will utilize public education, which has been shown to be a Best Management Practice. The City of Orlando will build on its successful strategies in educating community members about water conservation and water quality and evaluating our progress. In a five-year period, the City succeeded in decreasing average water use per resident from 92 gallons a day to 83 gallons per day. From 2012 to 2016, Orlando improved water quality for five of the City's 95 lakes, resulting in 83 lakes meeting the standard of Good Water Quality. The Grease Fighter program diverted 6,779 gallons of used cooking oil from wastewater, turning into biodiesel fuel, and earned participating Girl Scouts a Water Badge. Free educational tours of the Water Reclamation Facility staffed by a public outreach coordinator have drawn thousands to learn about water quality and water conservation, the waste water treatment process, gardening with reclaimed water and the benefits of rain barrels. Through a partnership with Coca-Cola, free rain barrels are provided to residents.

The City of Orlando has a variety of means of reaching residents, including by participating in neighborhood meetings and outreach events, using door hangers, and through virtual communications (website, social media, enewsletters, focus groups) that can be executed safely during the Covid-19 pandemic. In 2018, the City of Orlando's digital services academy was recognized as a finalist for the national Engaged Cities Award for its resident-centered approach to providing city services, which has been successful in increasing trust in local government. Using ethnographic research methods, the City is in the process of reaching out to residents to better understand the barriers to converting from septic to public sewer. This research will inform the approach used to educate residents about the septic to sewer conversion project.

Another Best Management Practice that will be employed in this project is the septic system phase-out with proper abandonment and hook-up to public sewer. By targeting a neighborhood with septic systems that are over 30 years old, the City will assist property owners in decommissioning their old septic system at the end of its useful life, and will prevent leakages and septic system failure, which is a significant source of pollution to the Little Wekiva River.

Project Effectiveness Evaluation:
The City of Orlando will conduct surveys with property owners to evaluate the effectiveness of outreach and the reasons for deciding whether to connect to municipal sewer. In addition, the City of Orlando will track information received from contractors on the condition of onsite sewage treatment and disposal systems that were decommissioned to ascertain if there were significant leakages.

POLLUTANT LOAD REDUCTIONS/OUTCOMES:
BMP Name: Septic to Sewer Conversion

BMPs Installed	TP lbs./yr.	TN lbs./yr.
Load Reduction	250	2,500
% Reduction	99%	99%

Project Funding and Timeline:

Description	Grant Funding	Match Funding
Connecting to lateral	$290,000	$230,000
Septic tank abandonment	$176,000	$84,000
Public Education	$5,000	$0

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: October 31, 2025

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PROJECT 9: Midtown Redevelopment Water Quality – Phase 1

PROJECT TYPE: Stormwater

PROJECT FUNDING REQUEST: $800,000
MATCH COMMITMENT: $1,808,000

ENTITY/SPONSOR NAME: City of Fort Myers

CONTACT INFORMATION:
Name: Richard Thompson
Street Address: 2200 Second Street
City, State, Zip: Fort Myers, Florida 33902
Telephone: (239)-321-7630
Email: Rthompson@cityftmyers.com

SHORT PROJECT DESCRIPTION:
Midtown is a 200-acre redevelopment project that is proposed to be completed in four phases over the next four years. Phase 1 will install low impact development components including a previous pavement, tree boxes, groundwater recharge exfiltration trenches, and inlet filtration within the first 50 acres. Water quality monitoring will be performed. Public green infrastructure education will be addressed through onsite signage to promote behavior change.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address): The area is bounded on the north by Dr. Martin Luther King, Jr. Boulevard (State Road No. 82), on the east by Fowler Street (State Road No. 739), on the south by Hoople Street, and on the west by Jackson Street.

Size of Project Impact (area needed to build project): 50 Acres
Size of Area Being Treated: 50 Acres
Latitude (decimal degrees): 26.63694
Longitude (decimal degrees): -81.86639

Provide the name of the waterbody(s) that this project addresses:
Billy Creek & Caloosahatchee Estuary (Tidal Segment2). Project is listed in and implementing the Caloosahatchee River and Estuary Basin Management Action Plan.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
3240J & 3240B

List the parameter(s) the waterbody is impaired for that this project addresses.
Total Nitrogen, Iron, Bacteria, Dissolved Oxygen

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

DETAILED PROJECT DESCRIPTION:
There are many ecological and economic metrics that rely on the health of the Caloosahatchee Estuary. The City of Fort Myers and other areas of unincorporated Lee County depend on the Caloosahatchee River as a source of potable water to supplement the water demand. A decrease in total nitrogen is desired to improve the oysters and seagrass habitats. The fishing and tourist industry economically benefit from the health of the estuary. Local businesses are beginning to understand the interconnection between exponential algae bloom growth, a decrease in aquatic vegetation and wildlife, and the negative economic impacts on their business. The size of this redevelopment project allows the opportunity to accomplish large-scaled impacts towards water quality environmental improvement. The water quality improvement goals of the project are achieved through:

- Replace the aging drainage system that discharges storm water directly offsite without treatment.
- Develop a storm water management system to promote infiltration and groundwater recharge to retain more water onsite.
- Implement water quality treatment best management practices for reduction of pollutant loading.
- Improve public awareness of low impact development and green infrastructure.
- Allow monitoring and testing of the treatment effectiveness.

A multi-faceted treatment train will be proposed to accomplish the stormwater treatment for the Midtown area. An emphasis will be placed on infiltration to remove runoff from the discharges. This is planned to be accomplished through trench drains in gravel beds, inlets bottom openings, pervious pavement for parking spaces, etc. to percolate as much stormwater back into the soil.

Water quality treatment devices such as bio-filter structures incorporated into the drainage system, tree well treatment boxes, special filter media for nutrient removal, baffles/sumps in drainage boxes to hold back oil/greases/solids, vegetated flow channels for plant nutrient uptake, and modular wetland system for additional treatment. It is cost effective and environmentally beneficial to address water quality issues at the source than attempting to improve water quality downstream of the source. This major urban redevelopment project incorporates water quality improvements into the backbone of the stormwater management system.

Project Effectiveness Evaluation:
Effectiveness of the green infrastructure project will be measured in terms of project area (sq. ft), treatment area (sq. ft.), number of terraces created, elevation of terraces, number and type of plants installed, and “pre” and “post” photos of the BMP site. Further, Riverside Conservancy volunteers will conduct citizen science monitoring of the water quality adjacent to the green infrastructure project for two years. The County has monitored water quality at this site for decades and the Riverside Conservancy will compare its data to future county samples to ensure quality control. The Riverside Conservancy will compile surveys of park visitors to measure community engagement and understanding of the value of living shoreline as it relates to water quality. Additionally, the Riverside Conservancy will also conduct “pre” and “post” tests of students it brings to the site during its educational programs.

POLLUTANT LOAD REDUCTIONS/OUTCOMES:

BMP #1 Name: Pervious Pavers

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**18**	**122**
% Reduction		

BMP #2 Name: Exfilration Trench

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**157**	**1,095**
% Reduction		

BMP #3 Name: Inlet Filtration

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**142**	**657**
% Reduction		

BMP #4 Name: Tree Wells

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**4**	**25**
% Reduction		

TOTALS

BMPs Installed	TP lbs/yr	TN lbs/yr
Load Reduction	**159**	**1,111**
% Reduction	**98%**	**98%**

The BMP treatment trains model shows 98% water quality treatment with the proposed components of the stormwater system. Since the efficiencies of the individual components has not been field tested and verified, a conservative value has been developed using a 20% factor to avoid over estimation of treatment. The program values have been multiplied by 0.8 to achieve a conservative value.

The conceptual Total Nitrogen (TN) loading for re-development of Phase 1 Midtown was computed as 514.8 kg/yr or 1,134.9 lb/yr. At 80% treatment the TN removal would be 908 lb/yr. The conceptual Total Phosphorus (TP) loading was computed as 74.0 kg/yr or 163.1 lb/yr. At 80% treatment the TP removal would be 130.5 lb/yr. At a conceptual budget cost of $2.6M, the cost per TMDL unit would be ($2.6M/908 lb=) $2,863.

The pilot program to test and evaluate the treatment efficiencies of the BMP train will be invaluable for determining the accuracy of the computed values for us and future users.

Project Funding and Timeline:

Task Name	Grant Funding	Match Funding
Tree Boxes	$100,000	$20,000
Exfiltration Trench	$0	$1,600,000
Bio-Filter Boxes	$300,000	$20,000
Pervious Pavement	$400,000	$0
Inlet Box Filtration	$0	$160,000
Administration	$0	$8,000
Total	**$800,000**	**$1,808,000**

Estimated Project Start Date: July1, 2022
Estimated Project End Date: September 30, 2026

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PROJECT 10: Walnut Street Resurfacing and Parking

PROJECT TYPE: Stormwater

PROJECT FUNDING REQUEST: $400,000
MATCH COMMITMENT: $50,000

ENTITY/SPONSOR NAME: City of Green Cove Springs

CONTACT INFORMATION:
Name: Mike Null
Street Address: 904-297-7500
City, State, Zip: Green Cove Springs, FL, 32043
Telephone: 904-297-7500 ext.3324
Email: mnull@greencovesprings.com

SHORT PROJECT DESCRIPTION:
Walnut Street will be resurfaced to install pervious components and include a pervious parking lot with tree boxes. Water quality monitoring will be performed. Public nonpoint source education will be addressed through onsite signage and a social marketing campaign to promote behavior change.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address):
Green Cove Springs, Clay, Walnut Street

Size of Project Impact (area needed to build project):
Size of Area Being Treated: Vacuum Sewer System: 53,000 square feet

Latitude (decimal degrees): 29.993963
Longitude (decimal degrees): -81.677612

Provide the name of the waterbody(s) that this project addresses:
St. Johns River.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
22131

List the parameter(s) the waterbody is impaired for that this project addresses.
Nutients – Nitrogen and Phosphorus

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

DETAILED PROJECT DESCRIPTION:

This project is intended to utilize at least two tree boxes and pervious pavement to construct a new parking lot and treat the resulting stormwater runoff. This project will also utilize pervious

pavement to rehab on-street parking on two blocks of Walnut Street. Pervious pavement is not being recommended for the driving lanes, but other designs are being considered.

The pervious elements of this project will filter nutrients from the stormwater to prevent discharge into the St. Johns River which is impaired for Nitrogen and Phosphorus. They will also ensure pre- post- runoff requirements are met by increasing stormwater percolation directly into the surficial aquifer.

The Public Education component of the project is very inexpensive and will address homeowners and residents whose rear yards drain directly over their bulkheads and into the River. The tree-box and pervious pavement are relatively low maintenance, and will therefore require very little cost to maintain. These methods are lower cost than a pond, which might include regular mowing or trash and weed removal along with other regular maintenance.

Project Effectiveness Evaluation:
Routine sampling of the river is conducted by the City's water utility. While many factors contribute to the discharge into the City has capabilities to monitor discharge into the river. Monitoring rain events will assist in determining the effectiveness of the pervious surface.

POLLUTANT LOAD REDUCTIONS/OUTCOMES:

Catchment 1 Walnut Street Pervious Pavement

BMPs Installed	TP lbs./yr.	TN lbs./yr.
Load Reduction	**0.253**	**1.76**
% Reduction	48%	48%

Project Funding and Timeline:

Task Name	Grant Funding	Match Funding
Design	$0	$25,000
Permitting	$0	$5,000
Construction	$380,000	$20,000
Education/Monitoring	$20,000	$0
Total	**$400,000**	**$50,000**

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: June 30, 2024

PROJECT 11: North Broadway Median Bioswale

PROJECT TYPE: Stormwater

PROJECT FUNDING REQUEST: $79,985
MATCH COMMITMENT: $100,000

ENTITY/SPONSOR NAME: City of Fellsmere

CONTACT INFORMATION:
Name: Mark D. Mathes, City Manager
Street Address: 22 S. Orange Street
City, State, Zip: Fellsmere, Florida 32948
Telephone: 772-646-6303
Email: citymanager@cityoffellsmere.org

SHORT PROJECT DESCRIPTION:
This project will recreate a series of bioretention/bioswales that will convey runoff from N. Broadway, the main downtown area of Fellsmere, to the North Regional Lake that was previously constructed for nutrient reduction, thus creating a treatment train. Water quality monitoring will be performed and an education component will be included through onsite signage and a social marketing campaign.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address): N. Broadway, Fellsmere, FL. The improvements run from Fellsmere Rd. (CR-512) northerly to S. Carolina Ave.

Size of Project Impact (area needed to build project): 2,220 linear feet long by 100 ft wide.

Size of Area Being Treated: In addition to improving the water quality of the runoff from the roadway, the project is intended to address stormwater treatment of 12 acres of existing development that fronts N. Broadway with direct connection to the storm system. Preliminary calculations document this project could result in a 53% nutrient reduction.

Latitude (decimal degrees): 27.77060
Longitude (decimal degrees): -80.60129

Provide the name of the waterbody(s) that this project addresses:
Indian River Lagoon; C-54 Canal; Park Lateral & Main Canal; Railroad Ditch #13b. Project is listed implementing the Central Indian River Lagoon Basin Management Action Plan

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
The project is located in the Zone SEB of the Central Indian River Lagoon, WBID # 3138A

List the parameter(s) the waterbody is impaired for that this project addresses.
Total Nitrogen & Total Phosphorous

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?

No

DETAILED PROJECT DESCRIPTION:

This is an historic downtown area that was developed years ago; long before there were any stormwater or water quality standards. This is a perfect location for beautification via bioswales which will provide a large benefit to the untreated runoff. With this project, the entire 12 acre contributing area will meet current stormwater quality standards when taken in conjunction with the treatment offered by the existing North Regional Lake as part of the treatment train.

The project involves redevelopment of an existing roadway, starting at the outside curb of the existing N. Broadway roadway section. Reconstruction of the sidewalk is not anticipated but may be required in certain areas to ensure positive flow toward the center median bioswale. Proposed roadway section includes existing 10-ft sidewalk, large grassed area that varies in width, on-street parking that may be built with pervious surfaces to increase benefit provided, and travel lanes that slope to a center bioswale that captures runoff. This is a significant change from the current conditions that has a raised brick median, standard inlets along the outside curb and nowhere for the runoff to percolate. Sheet flow will concentrate at concrete flumes into the bioswales. Additional runoff from roof gutters, parking areas, and patios contributed from adjacent private properties also flow into the right-of-way and eventually into the bioswales.

The proposed project includes re-contouring an existing roadway to direct runoff to proposed bioswales within the median. Bioswales will be constructed in segments reflecting the existing roadway cross streets. There are five segments within the project created by cross streets. Stormwater will enter the bioswales through engineered flumes. The bioswales will contain control structures in each segment to allow the stormwater to stage within each bioswale segment thus minimizing the outflow of stormwater from minor rain events. The bioswales will be vegetated with water tolerant plants specifically selected for their ability to uptake nutrients. The specific plant species will be selected in consultation with University of Florida, a project partner, as part of the project design. Turf will not be utilized; meanwhile, trees, shrubs, grasses, and wetland plans will be selected and placed where appropriate give the expected water level within the bioswale. The aggregate total bioswales will be approximately 1 acre in size and will treat runoff from a 12 acre contributing area with direct connection to the existing North Regional Lake which serves as a second treatment system. Preliminary calculations document this improvement could result in a 53% nutrient reduction.

The bioswales will provide nutrient removal through retention and vegetative uptake of first flush runoff. This will result in an overall reduction in nutrients discharged to the Indian River Lagoon. In addition, setting the discharge/control structure at an elevation above the design event results in the medians retaining all design event stormwater runoff; thereby eliminating discharge to the receiving bodies up to such design rain events.

The City will include educational signage at the medians adjacent to cross-walks at the cross streets. In addition, the City will create education material for dissemination through social media. Finally, a public workshop will be conducted to inform residents and business owners of the project activities and environmental benefits.

Project Effectiveness Evaluation:
Water quality monitoring for TP and TN. Monitoring will be a part of the effectiveness measurements. The monitoring will focus exclusively on the nutrient loads entering the system and then existing the system. Since the system is part of a treatment train, the input/output nutrient loading at each point in the train will be evaluated. The number of participants will be limited to City Staff and the vendor selected to perform the water sample capture and separately the analysis of the water sample.

POLLUTANT LOAD REDUCTIONS/OUTCOMES:.

BMP: Retention and Bioswales

BMPs Installed	**TSS lbs./yr.**	**TP lbs./yr.**	**TN lbs./yr.**
Load Reduction		12.1	85.8
% Reduction		53.1%	53.1%

Project Funding and Timeline:

Task Name	**Grant Funding**	**Match Funding**
Design and Permitting	$0	$0
BMP Construction	$79,985	$100,000
Education	$0	$0
Monitoring and Reporting	$0	$0
Construction Engineering Inspection	$0	$0

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: June 30, 2025

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PROJECT 12: Indian Waters Phase 1 – Septic to Sewer

PROJECT TYPE: OSTDS

PROJECT FUNDING REQUEST: $774,000
MATCH COMMITMENT: $172,000

ENTITY/SPONSOR NAME: City of Crystal River

CONTACT INFORMATION:
Name: Beau Keene
Street Address: 123 NW Highway 19
City, State, Zip: Crystal River, FL 34428
Telephone: 352-795-4216 ext. 313
Email: bkeene@crystalriverfl.org

SHORT PROJECT DESCRIPTION:
The proposed project will remove 77 septic tanks from the Indian Waters (tributary of Crystal River) and connect the residences to the City's central wastewater collection system. Removing the septic tanks will result in an estimate load reduction of 456 lbs. of nitrogen per year. Wastewater from the properties will be collected and pumped to the City's wastewater treatment plant that provides reclaimed water for transmission to the Duke Power Plant and alternatively land application. The water sent to Duke does not recharge to the ground and surface waters and has a nutrient removal efficiency of up to 100%. When Duke is unable to accept effluent water the City will land apply the water to a sprayfield.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:
Geographic Location of Project (e.g. city, county, street address):
The subject properties are located along seven different streets. All the properties, except for one lot, are located just outside Crystal River city limits in Citrus County. The property located at 3580 N Hiawatha Ter is located within the City limits.

Size of Project Impact (area needed to build project):
The project consists of the abandonment of 77 existing septic tanks, connection of the residences to the sewer collection system, restoration, and connection fees. Please note the sewer collection system will be comprised of low pressure grinder stations and this system is funded by the FDEP Springs Restoration Grant Agreement LP51033 and is not included in the portion of the project identified with this grant application.

Size of Area Being Treated: The project area is approximately 40 acres but this being a septic to sewer project the area being treated is not applicable. The benefit is associated with the nitrogen removal associated with the septic tank removal.

N. Suwannee Pt.
Latitude (decimal degrees): 28.915009
Longitude (decimal degrees): -82.618400

N. Hiawatha Terr.
Latitude (decimal degrees): 28.915335
Longitude (decimal degrees): -82.617259

N. Eagle Pt.
Latitude (decimal degrees): 28.917525
Longitude (decimal degrees): -82.614813

N. Ringdove Pt.
Latitude (decimal degrees): 28.916959
Longitude (decimal degrees): -82.613686

N. Catbird Pt.
Latitude (decimal degrees): 28.916948
Longitude (decimal degrees): -82.612564

N. Bluebird Terr.
Latitude (decimal degrees): 28.917050
Longitude (decimal degrees): -82.611439

N. Tallahassee Rd.
Latitude (decimal degrees): 28.918132
Longitude (decimal degrees): -82.611702

Provide the name of the waterbody(s) that this project addresses:
Kings Bay/Crystal River. Project is listed in implementing the Crystal River/Kings Bay Basin Management Action Plan.

Provide the WBID number(s) for the waterbody segment(s) that this project addresses.
1341
List the parameter(s) the waterbody is impaired for that this project addresses.
Total Nitrogen

Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit?
No

DETAILED PROJECT DESCRIPTION:
The proposed project includes the abandonment of 77 residential septic tanks and connecting the 77 residences to the City's wastewater collection system. By eliminating the septic tanks there will be an estimated load reduction of 456 pounds of total nitrogen per year from the impaired water bodies. This estimate was calculated using FDEP methodology based on 23.7 pounds of nitrogen/year/septic tank with a 0.5 typical septic attenuation factor and a 0.5 recharge factor. In addition to the BMP associated with this project, which is the elimination of the septic tanks from the watershed, the collection system project, funded by FDEP Springs Restoration Funds, will include flood protection for the low pressure grinder stations. While these are separately funded they are related BMPs and contribute to the overall benefit to the water body.

The project is cost effective by removing 456 pounds of nitrogen/year from the impaired waterbody for a cost of $946,000 with a cost effectiveness of $69.12/lbs of nitrogen removed over the 30 year life of the system. This is generally regarded as a highly cost effective project. The effectiveness will be measured by monitoring the abandonment of the septic tanks and connection to the collection system.

Project Effectiveness Evaluation:

By achieving a 100% resident connection to the collection system within 1 year of construction completion.

POLLUTANT LOAD REDUCTIONS/OUTCOMES:
BMP Name: Septic Tank Abandonment

BMPs Installed	TP lbs./yr.	TN lbs./yr.
Load Reduction		456
% Reduction		100%

Project Funding and Timeline:

Task Name	Grant Funding	Match Funding
Construction	$774,000	$100,000
Education	$0	$15,000
Monitoring	$0	$50,000
Reporting	$0	$35,000
TOTAL	$774,000	$172,000

Estimated Project Start Date: July 1, 2022
Estimated Project End Date: December 31, 2024

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PROJECT 13: Florida Stakeholder Watershed BMAP Implementation Placeholder Project

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